2.1 BACKGROUND

2.1.1 Site History

The project site was originally used by the ancestors of the Nisqually Indians. European settlement began in 1832, when the Hudson's Bay Company established a cabin/storehouse on nearby Puget Sound at the mouth of Sequalitchew Creek (City of DuPont, 1995), northwest of the project site. In 1833, Hudson's Bay built Fort Nisqually at a location within the current Weyerhaeuser property and adjacent to the proposed golf course layout. Ten years later, Fort Nisqually was rebuilt at a location adjacent to but outside the eastern edge of the project site.

The DuPont Company acquired the Fort Nisqually property in 1906 and constructed an explosives plant and the historical Village of DuPont as a company town for plant workers (the historical village area is approximately 1 mile southeast of Parcel 1). DuPont continued to manufacture explosives at the site until the mid 1970s, when it sold the property to Weyerhaeuser.

Weyerhaeuser and its subsidiary, WRECO, still own the majority of the approximately 3,000 acres of Northwest Landing. Northwest Landing, a planned community, is in the City of DuPont and includes the former DuPont Works property. WRECO has begun to develop Northwest Landing on some of its lands within the City but has not yet developed the project site. Activities at the site have included extensive interim cleanup action in areas with the greatest degree of contamination.

2.1.2 MTCA Consent Decree and Site Remediation Studies

The explosives manufacturing and facility decommissioning activities at the former DuPont Works site (the project site) left residual chemical contaminants primarily in areas around buildings on the site, at materials disposal areas, and along the route of a narrow-gauge railroad that served the facility. Weyerhaeuser began remediation studies of the site in 1985 to determine whether hazardous substances were present and to develop plans for remediation. In 1991, Weyerhaeuser and DuPont signed a Consent Decree (No. 91 2 01703 1) with Ecology, according to the requirements of MTCA under which they agreed to study the site and complete a remedial investigation (RI), risk assessment (RA), and feasibility study (FS). The Consent Decree also allowed the Companies to implement interim remediation activities as approved by Ecology.

The boundaries of the area covered by the Consent Decree (referred to as the Consent Decree area) are shown in Figure 2. The portion of the initial Consent Decree area generally south of Sequalitchew Creek is referred to as Parcel 1 and is the focus of this EIS; the portion generally north of the creek is referred to as Parcel 2. The agreement provided for the companies to conduct a remedial investigation (RI), a health risk assessment (RA), and a feasibility study (FS). These studies are standard components of the remediation process for a contaminated site. Generally, the RI is the initial study in which physical samples from the site are subjected to laboratory analysis to identify the hazardous constituents present at the site and their levels of concentration. The RA is a rigorous analytical evaluation in which potential pathways for contact with the contaminants are identified, the human health and ecological risks associated with those pathways are quantitatively estimated, and remedial action objectives based on those risks are established. The FS evaluates alternative potential cleanup methods designed to meet

the remedial action objectives). Draft versions of these studies were delivered to Ecology in 1994 and 1995.

Between 1990 and 1994, while the site studies were ongoing, Weyerhaeuser and DuPont undertook interim source removal actions to clean up soil and/or debris from 21 areas of the site, in accordance with MTCA and the Consent Decree (DuPont Environmental Remediation Services and Hart Crowser, 1994a). Specific work plans were prepared for each interim source removal and were reviewed and approved by Ecology prior to implementation. These actions were undertaken to improve overall site conditions and minimize delays in the RI/RA/FS process. The interim source removals provided for more complete characterization of the site at lower risk and allowed the FS to focus on the remaining soil contamination at the site.

A draft RI for the former DuPont Works site (DuPont Environmental Remediation Services and Hart Crowser, 1994b) was completed in June 1994. The preliminary RI identified 14 potential chemical contaminants and 22 areas of the site that warranted consideration in the site risk assessment (RA). The preliminary RA, completed in December 1994, determined that no further action was needed for some areas and identified the remaining areas for which cleanup actions were to be evaluated in the feasibility study (FS) (DuPont Environmental Remediation Services and Hart Crowser, 1994c).

Based on the conclusions of the draft RI and RA, the draft FS focused on arsenic and lead present on the site in soils and debris. The preliminary FS (DuPont Environmental Remediation Services and Hart Crowser, 1994a) considered the relevant cleanup standards and estimated soil volumes requiring treatment based on those standards; defined remediation units on the site, and estimated soil volumes in each unit to be treated through cleanup actions; evaluated the effectiveness, implementability, and cost of potential cleanup technologies; summarized the results of treatability studies; developed remedial action alternatives (consisting of sets of applicable technologies) appropriate to the site; analyzed the alternatives; and presented a recommended cleanup strategy based on the preferred alternative for each remediation unit.

In general, the draft FS strategy recommended that soils from remediation units with arsenic-only or lead-only contamination (most of the remaining remediation units following completion of interim source removal) be treated and/or capped on the project site. The draft FS recommended that soils with other constituents from some small remediation units be shipped to appropriate offsite landfills. The conceptual plan proposed in the draft FS features a golf course layout that includes the arsenic-only and lead-only contaminated soils requiring excavation and/or treatment. Residential, open space, or mixed residential and commercial land uses could occur on other areas of the site surrounding the golf course. Soils with concentrations below the applicable remediation levels for the corresponding land use would be left in place. Soils within the golf course area that have concentrations above golf course remediation levels would be treated to reduce contaminant levels and left in place or would be taken offsite for disposal. Contaminated soils could be placed within the golf course footprint, provided the concentrations of these soils were below the golf course remediation levels. Following placement of these soils within the golf course footprint, clean soils would be deposited over the golf course to provide capping material and help shape the course. Soil washing, with secondary treatment of residual soils, was considered for a portion of the contaminated soils on the site.

The overall objective for the remedial action is to remove and dispose or consolidate under an engineered cap soil that exceeds the site-specific (and land use-specific) remediation levels in Parcel 1.

The interim source removal actions (discussed previously) cleaned up the approximately 205-acre portion of the site located north of Sequalitchew Creek (Parcel 2) to industrial cleanup and/or site-specific remediation levels, which was the past and planned land use for this area. Therefore, in 1996 Ecology approved a Cleanup Action Plan (CAP) for Parcel 2 that provided for no further remediation activities except for institutional controls to maintain the industrial use of Parcel 2. Parcel 2 was deleted from the Consent Decree in 1997, and the deed restriction has been recorded in the Pierce County Assessor's office.

MTCA includes an exemption from local government permits and approval processes for remedial actions performed under a consent decree, order, or agreed order (RCW 70.105D.090). However, Ecology determined that the remedial action may result in probable significant adverse impacts to several elements of the environment and, therefore, determined an EIS was required.

2.1.3 SEPA and Land Use Restrictions

In 1995, Weyerhaeuser Company applied to the City of DuPont for a conditional land use permit for construction of a golf course, which was an element of the soil remediation. The City of DuPont did a SEPA evaluation of the proposal and made a determination of significance that required the completion of an EIS. The consulting firm of Huckell/Weinman and Associates was hired by the City to draft the EIS. The EIS was to address both land use impacts associated with construction of a golf course and remediation of lead- and arsenic-contaminated soils. Weyerhaeuser and DuPont companies, the project proponents, requested that Ecology become co-lead agency with the City of DuPont because of the cleanup component in the EIS. Ecology and the City of DuPont made an agreement to share the lead agency role and to each focus on their respective issues.

There were various disagreements between all the parties involved in the DEIS, especially over land use issues. After 4 years of work on the DEIS, Weyerhaeuser withdrew its conditional land use application, which eliminated the need to continue with that EIS. The companies then approached Ecology and requested that an EIS be drafted which addressed remediation issues only. Because the applicants proposed a cap/containment facility only, and they would not be the entity that would complete or operate the golf course, Ecology agreed to develop an EIS addressing just remediation.

Analysis of possible future land uses such as construction of golf course facilities (club house, maintenance buildings, etc.) as well as operation and maintenance of a golf course would need to occur in a separate environmental document (for example, a supplemental EIS, Determination of Non-Significance [DNS], Mitigated Determination of Non-Significance [MDNS], or new EIS). The project proponent at that time would most likely be whoever buys the cap/containment facility, and the lead agency would most likely be the City of DuPont. The Weyerhaeuser and DuPont companies have indicated they would not be the owners or operators of the golf course.

The City of DuPont Comprehensive Land Use Plan (Comprehensive Plan) is currently being revised and is scheduled for completion in late 2000. Both the 1985 and the 1995 Comprehensive Plans identified the Parcel 1 property within the Consent Decree boundary as having a variety of mixed uses, including residential, commercial, open space, and industrial. In

October 1999, Weyerhaeuser Company and WRECO filed a Declaration of Restrictive Covenant that covered the entire 846 acres of the cleanup site, including Parcels 1 and 2. The Restrictive Covenant was filed with the Pierce County auditor (document no. 9910290750) and is available for public review. The 1999 Restrictive Covenant states that Parcel 2 shall be developed and used only for industrial purposes. It also states that none of the property (Parcels 1 or 2) shall be developed or used for residential uses, schools, daycare facilities, or parks or recreational uses – with the exception that golf course and related amenities shall be allowed on Parcel 1. These restrictions on land uses apply to the current landowners as well as any and all future land owners, unless determined otherwise in a legal venue.

2.1.4 Scoping

Ecology distributed a Determination of Significance (DS) and Request for Comments on Scope of this EIS on May 17, 1999. Agencies, affected tribes, and members of the public were invited to comment on the EIS scope. Comments were to be returned by June 7, 1999.

The scoping process resulted in a variety of comments with several divergent opinions about the site. The alternatives described below were developed upon review of these comments. The scope of the EIS, determined by Ecology, focuses on the elements of the environment where there may be probable significant adverse impacts. These elements are:

- Surface water
- Groundwater
- Historic and cultural resources
- Environmental health

As a result of the scoping process, no probable significant adverse impacts were identified for the elements of earth, and land and shoreline use, primarily because the impacts of the proposed action will be temporary and remedial actions are under way. Therefore, these latter two EIS elements were not considered further or evaluated in the DEIS. However, based on comments received on the DEIS, a section on land use was added to the list of elements evaluated in the FEIS.

This FEIS is being prepared to be consistent with SEPA. Ecology is the lead agency under SEPA and the Weyerhaeuser and DuPont Companies are the project proponents.

2.1.5 Proposed Action

The trigger for this EIS is issuance of a DS by Ecology. Prior to implementation of the remediation, project proponents will submit and obtain Ecology approval of a CAP, which will describe implementation of the chosen cleanup alternative. The results of this EIS will help determine which cleanup alternative is presented as the recommended cleanup option in the feasibility study.

Ecology has agreed that a golf course cap/containment facility would be compatible with the planned remediation of Parcel 1. In general, the remediation objectives for Parcel 1 involved isolating soils on the site that are contaminated with lead or arsenic. The contamination migration pathway of concern is direct contact with the contaminants. Based on the proposed land uses for Parcel 1, the area within the golf course footprint must be cleaned up to meet golf course remediation levels.

The general method proposed to meet the remediation objectives is to consolidate contaminated soils within a minimum area of the golf course "footprint" (the collective outer boundary of the golf course holes and supporting facilities, arranged in their proposed configuration). The potential for direct contact would be minimized by placing a suitable cover over the contaminated soils. Suitable covers would include clean soils with a minimum depth of 18 inches (12 inches of clean soil over 6 inches of clean gravel or 18 inches of clean soil over a geosynthetic layer) from elsewhere on the site or from offsite sources. Public streets or roads would not be placed over contaminated soils, and underground utility lines would be located to avoid contaminated areas. Golf course fairways, roughs, tees, and greens would be developed over contaminated soils. However, an impermeable geomembrane barrier and water collection system would lie on top of the contaminated soil in the tee and green areas, instead of the permeable geotextile or gravel used elsewhere, because of higher water use in these areas, consistent with standard golf course practice. Some of the contaminated soils to be covered would remain in their current location within the golf course footprint, while other soils would be relocated from other parts of the course layout or elsewhere in Parcel 1 and covered during course development.

Whereas the golf course conceptual plan includes the full complement of supporting facilities that are standard for an 18-hole golf course (such as a clubhouse with parking areas, a mid-course restroom facility, and a maintenance complex), they will not be developed as part of the remediation and are not covered under this FEIS. A computer-controlled irrigation system, putting greens, a practice range, and cart paths will be installed, and a detailed management plan for the golf course will be prepared in the future, following completion of the site remediation.

A summary of the proposed action is described below. The applicants' proposed action is defined as remediation of the site that includes the following:

- Development of a cap/containment facility with the layout of an 18-hole golf course footprint that will be used as a containment cover for contaminated soils. Grasses will be planted on the containment cover to inhibit or reduce the potential for erosion.
- Shallow excavation of the land outside of the golf course footprint to the depth of contamination, estimated to be 1 to 1.5 feet, as defined by the land use-specific remediation levels.
- Transport and containment under the golf course footprint of soils less than the golf course remediation level excavated outside the golf course footprint.
- The treatment of soils and/or offsite disposal of the remaining soils containing chemical concentrations greater than the golf course remediation level. These soils have been excavated and stockpiled onsite as part of an interim action.
- Preservation of open space in areas specified.
- Implementation of the remediation plan pursuant to a CAP approved by Ecology.

2.2 PROPOSED ALTERNATIVES

2.2.1 Introduction

As described previously, the proposed action would consist of consolidating contaminated soils within selected areas of the golf course footprint and placing an "eco-cap" with clean soil over the material to prevent direct contact with the soil. Based on the studies completed to date, Ecology has determined that the cleanup strategy is to prevent direct contact with contaminated soils by either humans or ecological receptors. Previous studies have indicated that site groundwater, sediments, and surface water require no further remedial action, except for monitoring. Final determination of the need for further remedial action will be made by Ecology upon finalization of the CAP. Groundwater at the site is being annually monitored for one constituent (dinitrotoluene) at selected site wells (see Section 3.2 for more details). Leaching of contaminants from the proposed containment area soils to site groundwaters have been shown (using site-specific leaching studies) to be very limited and should not result in impacts to human health or the environment. Similarly, Ecology has determined that no remedial action is necessary for Old Fort Lake and Sequalitchew Creek because the lake and creek surface waters and sediments meet available ecologically based guidelines and human health criteria. Consequently, active remediation of groundwater, surface water, or sediments is not a component of the cleanup program for the project site. Planning for golf course development, operation, and maintenance need not accommodate such remediation measures, with the exception of potential long-term groundwater monitoring at selected site wells.

2.2.2 Alternative 1 (Proposed Action)

Alternative 1, which is the project proponents' preferred alternative, would involve the mass excavation of soil in targeted areas of the project site to the depth of contamination (estimated to be 1 to 1.5 feet), as defined by applicable regulatory standards. The excavated soil would be transferred and consolidated in selected locations onsite. Soil with concentrations greater than the golf course remediation level would be screened, and the fraction still above the golf course remediation level would be disposed offsite at a hazardous waste landfill. Soil below the golf course remediation level would remain within the golf course footprint. Each of the consolidation locations would be capped and lie beneath the proposed golf course footprint on the project site (see Figure 3). In short, it would be a golf course cap/containment facility.

Remedial action within the golf course footprint would be necessary if (1) there is a potential ecological concern in the area or (2) contaminant concentrations greater than the golf course remediation level are discovered. For these occurrences, the following generally would take place:

- **Areas of Ecological Concern**—Areas of ecological concern would either be scraped or spot excavated, and the removed soil less than the golf course remediation level transferred to the placement areas (soils greater than the golf course remediation level will be taken to an appropriate landfill), or an "eco-cap" would be constructed using either 6 inches of gravel or a geotextile.

- **Hot Spots (locations with soil concentrations greater than the golf course remediation level)**—Hot spot excavation occurred during the fall of 1999. The soils are stockpiled onsite and will be further treated and disposed of either prior to or during the final remedial action.

Scraping

The primary remedial technique would be the mass excavation by scraping of soils to the depth of contamination (estimated to be 1 to 1.5 feet), as defined by applicable regulatory standards. This scraping would be done on those areas within Parcel 1 that (1) exceed site-specific remediation levels, and (2) are not designated by Weyerhaeuser for a golf course cap/containment facility, open space, or as sites listed on the Washington Heritage Register and the National Register of Historic Places (such as the 1833 Fort Nisqually site). Some selected excavation could occur within the golf course footprint. For some open space land use areas (e.g., along railroad tracks), hot spots may need to be remediated. However, in other areas, lead detections occur in some open space areas that are ecologically sensitive (the Sequalitchew Creek Canyon [excluding railroad tracks], the bluff along Puget Sound, and the open space setback surrounding Old Fort Lake), where despite lead detections over site-specific human health remediation and/or ecological risk levels, remediation may not occur for these areas based on ecological concerns due to an assessment of net environmental benefit.

In general, the steps used during the scraping would be:

- Phase I—The area would be cleared and grubbed of existing vegetation.
- Phase II—The duff and upper 9 inches of soil would be removed, using a self-loading pan scraper.
- Phase III—The remaining contaminated soil (estimated to extend an additional 3 to 9 inches) would be graded into a windrow and picked up by the pan scraper. If uncontaminated gravel is encountered prior to reaching the target depth, further excavation would be terminated. The gravel represents a natural barrier to penetration of the subsurface by burrowing organisms. A grade level, installed on the grader, would be used to confirm the depth excavated.
- All of the material excavated would be placed in the placement/consolidation areas (PAs) within the cap/containment facility and rough-graded to generally match a golf course design.

Alternate Excavation Method

In those areas not accessible to the pan scrapers (because of topography or other reasons), a bulldozer would push the contaminated soils (estimated to be the upper 1 to 1.5 feet) to a collection point. The pan scrapers would then collect the soils and deposit them onto the PAs. Direct placement of soils into the PA is also possible from the areas adjacent to the PA and in the glacial kettles on the site (depressions in the surface topography).

Cap Construction

A cap/containment facility with the footprint of a golf course would be constructed on the project site as an engineered cover (cap) for contaminated soils and, if necessary, debris. The majority of this material would be imported from the commercial land use areas of Parcel 1 and

consolidated in roughly 89 acres of the approximately 180-acre golf course footprint. These 89 acres would constitute the PAs. Only soils and debris that contain contaminant concentrations equal to or less than the golf course remediation levels would be placed in the PAs. Each PA would be capped with 18 inches of clean soil by one of the following two methods listed below. This cap would be placed on any areas within the golf course footprint with in-situ contaminant concentrations less than the golf course remediation level but greater than the ecological risk level or the site-specific commercial remediation level. The remainder of the golf course soil (i.e., soil less than the ecological risk level) would be left in its current state.

- **Method One—**Twelve inches of clean soil would be placed over 6 inches of screened gravel. In this process, the gravel would act as an exposure barrier to ecological receptors. The 12 inches of clean soil would act as an additional exposure barrier to individuals most likely to be exposed—the golf course worker, who on occasion may find it necessary to install drainage ditches or repair irrigation pipe.
- **Method Two—**Eighteen inches of "pit run" soil would be placed over a permeable geotextile. In this case, the 18 inches of soil would act as the human health exposure barrier and the geotextile would act as the ecological exposure layer. In the tee and green areas, the geosynthetic (geomembrane) would be impermeable and a water collection system would be installed above the barrier.

Stockpiles

Existing Stockpiles

There are currently over 110,000 cubic yards of stockpiled soils on the project site. Of these soils, approximately 35,000 cubic yards are contaminated or slightly contaminated, primarily with lead. Stockpiles that meet (less than or equal to) site-specific remediation levels will be designated for reuse onsite. Stockpiles that do not meet site-specific cleanup goals will be treated and disposed of as described below.

Interim Action (Hot Spot Excavation Program) Soil Stockpiles

The soil stockpiles created as part of the interim action/hot spot excavation program will require treatment prior to disposal or re-use onsite. This process (primarily screening) will concentrate the contaminants into smaller volumes while recovering clean oversize gravel and sands that can be reused onsite. The oversize fraction will be analyzed and will be reused onsite if it meets site-specific remediation levels.

Other Considerations

Clearing and grubbing would be done when approval to proceed is given by Ecology. Haul routes for the scraping program would be established 2 weeks prior to initiation of the program. Scrapers would not travel in previously scraped areas. Sampling of the scraped areas would occur after scraping of the site is complete. Surveying of each section would follow the sampling effort and any re-excavation in the non-placement areas.

General Approach by Land Use

Commercial Land Use Areas

All scraped areas in the sections of the project site designated for commercial land use by Weyerhaeuser would be cleared of vegetation and excavated in the following manner:

Excavation would be done by sections of the project site to minimize haul distances to a placement area. Initially, there would be four sections. During the final golf course design, additional placement areas may be defined and incorporated in the design of the scraping sections. Some areas may not be excavated if soils meet site-specific human health and ecological risk criteria and if Ecology agrees that no excavation is necessary.

Confirmation sampling of the scraped areas would occur after a section is complete. Surveying of each section would follow the sampling effort and any re-excavation in the non-placement areas.

Open Space Land Use Areas

There were lead detections over the site-specific human health and ecological risk criteria in the open space areas, and these detections are generally along the railroad tracks near Sequalitchew Creek. These areas may be remediated as part of the remedial action or capped pending an evaluation of net environmental benefit. Other lead detections occur in areas that are ecologically sensitive: the Sequalitchew Creek Canyon, the bluff along Puget Sound, and the open space setback surrounding Old Fort Lake. These detections are below the site-specific human health risk criteria. No remediation is anticipated for these areas.

2.2.3 Alternative 2 (Excavation and Disposal at an Offsite Landfill)

This alternative would involve the scraping of the entire 636 (approximate) acres of the project site, excluding open space and sites listed on the Washington Heritage Register and the National Register of Historic Places (see Figure 4). The excavated soils would be stockpiled, sampled, and transported to an approved offsite disposal site. This effort would involve the movement of more than 1.35 million cubic yards of soil over the course of the project. Under Alternative 2, a golf course cap/containment facility would not be constructed.

2.2.4 Alternative 3 (Excavation and Secondary Treatment of All Impacted Soils by Soil Washing/Screening)

Under this alternative, the entire 636 acres (approximate) of the project site, excluding open space and sites listed on the Washington Heritage Register and the National Register of Historic Places, would be scraped to the depth of contamination (estimated to extend to 1 to 1.5 feet) (see Figure 5). The excavated soils would be stockpiled and washed or dry screened (depending on the decision made in the CAP). The soil would be handled the same as in Alternative 2, with approximately 215,000 cubic yards requiring disposal (soils that still do not meet site-specific remediation levels after the soil washing/screening is completed). The remainder would be spread back onsite (soils that do meet site-specific remediation levels after the soil washing/ screening is completed) under the golf course cap/containment facility, which would be constructed under Alternative 3.

2.2.5 Alternative 4 (No Action)

SEPA requires evaluation of a no action alternative in the environmental review of proposed actions. In this instance, the project site would remain in its current condition and all remaining contaminated soils would be left in place. No further remediation action would take place. This alternative would not be acceptable to Ecology under MTCA.

2.3 ALTERNATIVES NOT CONSIDERED IN DETAIL OR REJECTED

The range of action alternatives considered in this EIS has been determined by the remediation context of the proposed action. The golf course cap/containment facility has been proposed as an effective and efficient means to implement cleanup of contaminated soils present on the project site. Given the size and configuration of the project site and the distribution of contaminated soils, the range of reasonable remediation alternatives is limited.

The draft FS evaluated the feasibility of other alternatives for remediating contaminated soil at the site. The three action alternatives presented above (1, 2, and 3) represent the alternatives judged most promising for the project site. These alternatives and ten combinations of alternatives were previously evaluated according to:

- Effectiveness
- Cost
- Implementability
- Ecology's cleanup technology preference

These additional alternatives are discussed in detail in the draft FS, along with a number of other options that were rejected during the initial screening of applicable technologies (DuPont Environmental Remediation Services and Hart Crowser 1994a). The general approaches that were previously considered and rejected are summarized below (see the draft FS for the details).

- **Soil Stabilization**. This operation would have included the excavation of contaminated soil, mixing of the excavated soil with cement-like material, and solidification of the mixture to form a solid matrix or soil-like material. Soil stabilization was considered together with either onsite deposition and cover, and offsite disposal at a landfill. In either case, the excavation would have been backfilled and/or regraded.
- **Wet Screening**. This alternative would have included excavation of contaminated soil, wet screening the soil according to a specific grain diameter (taken to be 6 millimeters), and deposition of the clean coarser fraction on the site. The classification would separate out a finer fraction, in which the contaminants tend to accumulate, and a coarser fraction which would likely be less contaminated or uncontaminated. The excavation would have been backfilled and/or regraded. The contaminated fine fraction would require offsite disposal.
- **Surficial Soil Amendment**. This alternative would have consisted of blending shallow soils, which contain higher concentrations of lead and arsenic, with deeper, relatively uncontaminated soils and soil amendments. A mixing depth of about 1 foot was considered. Soil amendments included fertilizers, organic-rich materials, and chemicals to modify soil pH. The areas amended would have been revegetated.

- **Capping.** This alternative would have involved installing layers of low permeability, high durability, engineered materials over soils at the site that contained contaminants at or above a specified concentration. The cap would have prevented direct contact exposure with contaminated soil, prevented surface water (rainfall) from contacting the underlying contaminated soil, and further reduced the already low potential for future leaching of constituents into subsurface soils and groundwater.
- **Cover**. This alternative would have involved installing a clean soil layer above those areas at the site that contained contaminants at or above a specified concentration. The soil cover would have reduced direct contact exposure with contaminated soil.